

Sustainability and regional engagement are the foci of research at USC. In 2009, the University's research capacity increased, major national and international accolades were received, and research projects diversified, with the major highlights being:

**Director of the University's Sustainability Research Centre, Professor Tim Smith**, and his research partners in a major climate change adaptation project in Sydney, won a prestigious Australian Museum Eureka Prize. The three-year project involved Professor Smith and representatives from the Sydney Coastal Councils Group, WWF and the CSIRO assessing the ability of Australia's largest city to adapt to future climate conditions.

**Dr Christian Jones, Senior Lecturer in Interactive Digital Media**, was part of a joint University and Queensland Police Service partnership that created an online computer game to help children avoid abduction. The Being Safety Smart game was trialled in nine Sunshine Coast schools to assess its effectiveness in boosting the personal safety knowledge of children aged 6-8. Dr Jones spent more than two years creating the animated game, and was awarded a Queensland Police Service gold award for crime prevention for his efforts in August.

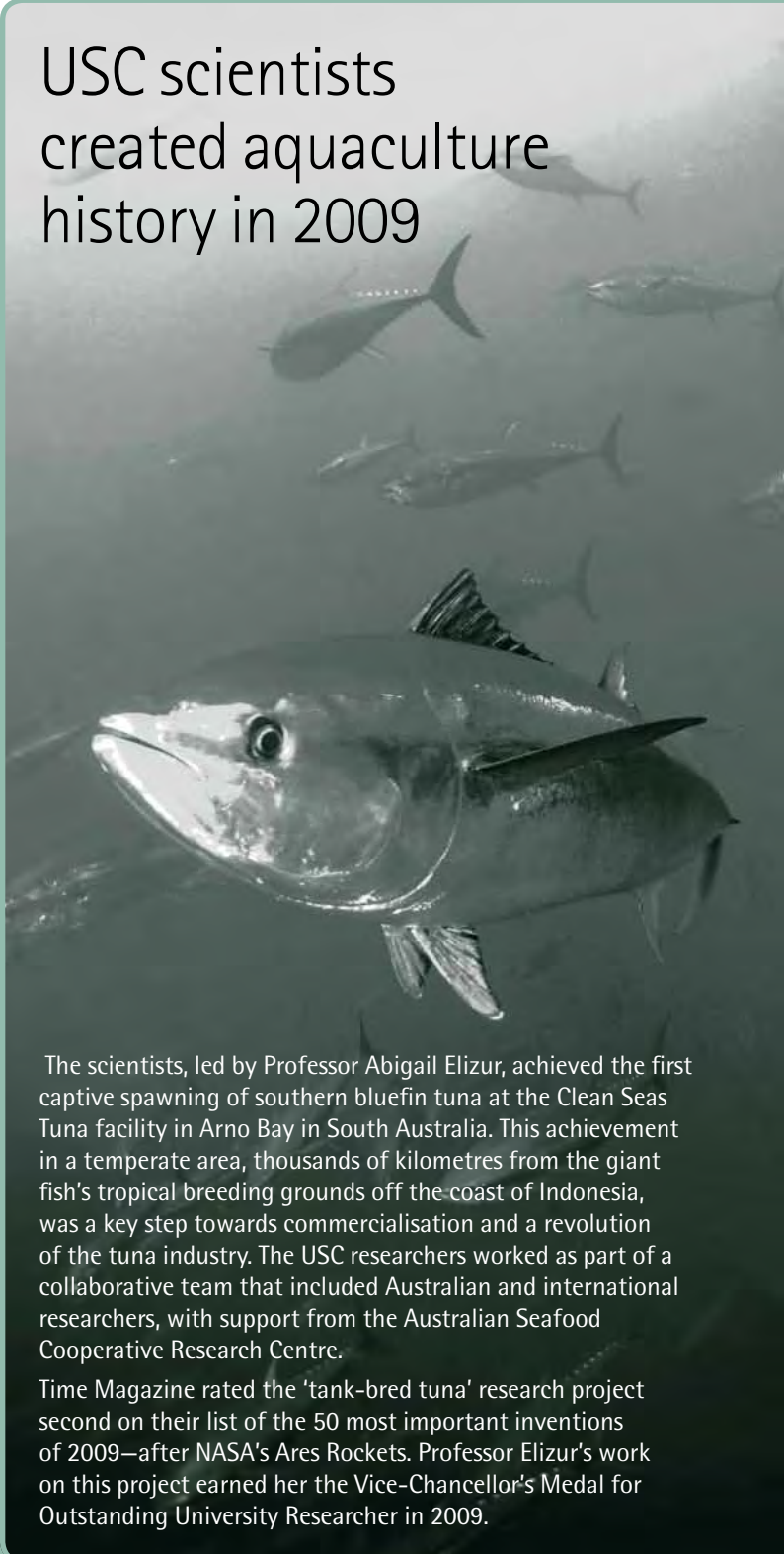
**Honours student Jane-Louise Lampard** won one of 10 scholarships from Water Quality Research Australia for her study on the quality of recycled water. Ms Lampard found the potential of exposure to concentrations of five contaminants of concern to be lower in recycled water as opposed to other sources such as food and lifestyle choices.

**Psychology graduate Ingrid Hawkins** earned the opportunity to present her thesis to the Australian Psychological Society (APS), as part of a prize won earlier in the year through APS. Ms Hawkins' research examined the links between a person's knowledge of their genetic predisposition to Type 2 diabetes, and their intentions to lead a healthy lifestyle.

**Senior Lecturer in Chemistry Dr Peter Brooks, Senior Lecturer in Environmental Chemistry Dr Neil Tindale and laboratory technician Daryle Sullivan** were part of a collaboration that won a major research award at the annual Healthy Waterways 2009 presentations, in recognition of their water-quality studies at Boreen Point. A second water-quality study, led by Associate Professor of Heritage Resource Management Bill Carter, on World Heritage-listed Fraser Island, found levels of nutrients and coliforms in the groundwater of the island's camping zones to be well in excess of Queensland standards.

**Biomedical science student, Karina Hamilton**, completed nationally-significant research into the fatty acid concentrations of commercially available Omega 3 capsules. Food Standards Australia New Zealand (FSANZ) funded Karina's research and flew her to Canberra to present her findings.

## USC scientists created aquaculture history in 2009



The scientists, led by Professor Abigail Elizur, achieved the first captive spawning of southern bluefin tuna at the Clean Seas Tuna facility in Arno Bay in South Australia. This achievement in a temperate area, thousands of kilometres from the giant fish's tropical breeding grounds off the coast of Indonesia, was a key step towards commercialisation and a revolution of the tuna industry. The USC researchers worked as part of a collaborative team that included Australian and international researchers, with support from the Australian Seafood Cooperative Research Centre.

Time Magazine rated the 'tank-bred tuna' research project second on their list of the 50 most important inventions of 2009—after NASA's Ares Rockets. Professor Elizur's work on this project earned her the Vice-Chancellor's Medal for Outstanding University Researcher in 2009.

**GOAL** To concentrate the University's research effort and achieve national and international distinction in ways that advance University priorities

**Senior Lecturer in Vegetation and Plant Ecology Dr Alison Shapcott** commenced a project working closely with the Australian Macadamia Growers Society (AMS), the Department of the Environment and Resource Management (DERM) and the local Indigenous people, to save the *Macadamia Jansenii* species. It is believed that the species only exists in a single stand of 60 trees in Bulburin National Park.

**Twenty-four academics and higher degree by research students** made presentations at the 2009 University Research Conference. Clean Seas Tuna Chairman Hagen Stehr was the keynote speaker, presenting the research being performed with USC's Professor Abigail Elizur. The annual event promotes the quality, impact and benefit of USC research to academic colleagues and the wider community.

**Future forestry research at the University was bolstered** by the appointment of three Queensland Primary Industries and Fisheries (QPIF) researchers as associate professors. Collaboration between the University, QPIF and the CSIRO has resulted in joint forestry projects worth more than \$7 million in recent years.

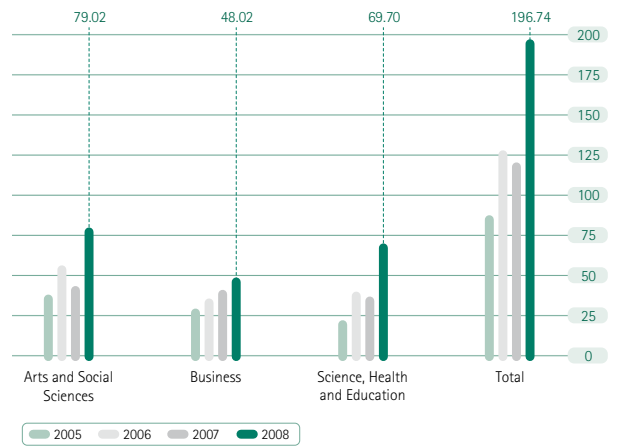
**The Sustainability Research Centre was established,** following the success of the Sustainability Research Group in the publication of more than 100 research papers and in attracting \$2 million in competitive research funding in 2008. Key aspects of the centre's research include coastal management, climate change, water management, natural and cultural heritage, innovation, adaptive growth and community well-being.

**Tourism and Marketing Lecturer Vikki Schaffer** conducted PhD research into the benefits of the sinking of the former HMAS Brisbane off Mooloolaba in 2005. Preliminary results from her study found the conservation park has contributed almost \$18 million to the Sunshine Coast economy in the four years since the ship was scuttled.

**Dr Scott Burnett led a research project** to count the numbers of quolls, an endangered carnivorous marsupial, inhabiting the Mary River headwaters in forest reserves around Conondale, Kenilworth and Kandanga. Using heat-activated cameras, the Wildlife Ecology lecturer counted the animals as part of the Wildlife Preservation Society of Queensland (WPSQ) project, 'Protecting Quolls in Queensland Landscapes'.



Pictured: Professor Abigail Elizur (centre) and USC students Daryle Sullivan and Eva Hatje inspect some tuna larvae. Image courtesy Sunshine Coast Daily/Brett Wortman.



■ Total research publications (weighted) by faculty and year

# Research

## PERFORMANCE AGAINST TARGETS

### Research publications

Target	Performance
Annual increase in total publication points awarded by DIISR in the HERDC	Increase of 75.78 publication points in 2008 (as reported in 2009) Note: Publication points for 2009 are released in 2010.
Annual increase in average HERDC publication points per T&R staff FTE	Increase of 0.3 publication points per T&R staff FTE in 2008 (as reported in 2009) Note: Publication points for 2009 are released in 2010.

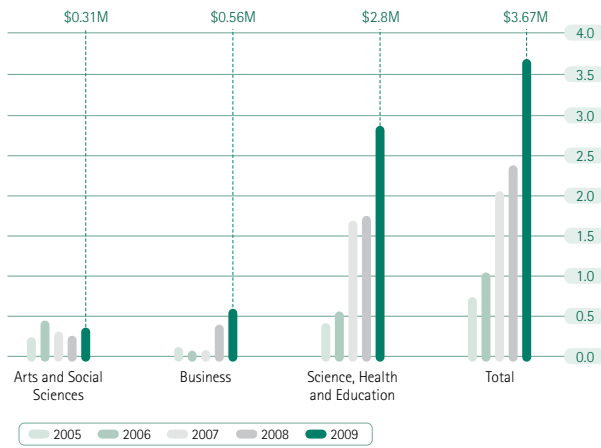
The total weighted publication points showed a significant increase of about 60% from 2007 to 2008, which also provided an increase of 0.3 publication points per FTE from 2007 to 2008.

Publications (weighted)	2005	2006 <sup>1</sup>	2007	2008
Books	7.5	25	7.5	30
Chapters	7.03	15.46	15.59	20.81
Journal Articles	41.41	58.1	79.24	100.19
Conference Publications	31.63	30.08	18.62	45.74
Total	87.57	128.64	120.96	196.74
Target A achieved?	✓	✓	✗	✓
Per FTE	0.83	1.05	0.84	1.14
Target B achieved?	✓	✓	✗	✓

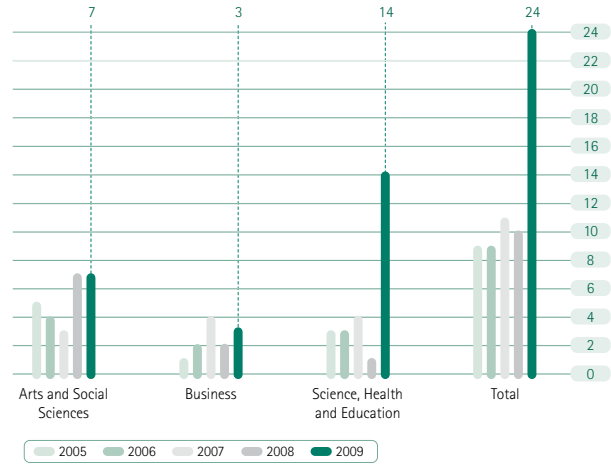
Summarised above are total publication points (weighted) for each publication category; and publication points (weighted) per full-time equivalent (FTE) academic staff member (including adjuncts).

**Notes for:** Publications (weighted) table

1. The official data reported to DEEWR for 2006 on 30 June 2007 was 119.32 total weighted publication points. After this date, additional publications were identified and included in the publications count.



■ Total research income (\$ Million) by faculty and year



■ Number of HDR completions<sup>1</sup> by faculty from 2005 to 2009

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## FORWARD PLANNING FOR 2010

### Research income

Target	Performance
Annual increase in total research income based on HERDC data	\$3,664,609 – an increase of almost 55% on 2008
Annual increase in average research income (HERDC data) per T&R staff FTE	An increase of 42% in research income per T&R staff FTE

Research income from the public sector and industry increased, while the amount of monies received from competitive grants dropped slightly in 2009. Overall, total research income increased more than 500% since 2005, from \$0.7M to over \$3.6M in 2009.

The per T&R staff FTE research income increased to \$19,571 in 2009 (from \$13,771 in 2008).

### Number of completing higher degree by research (HDR) students

Target	Performance
Increase the number of HDR students completing a HDR award each year	Exception: The release of 2009 data is anticipated in 2010

For 2009 there were 31 theses examined. A further three theses are under examination at the time of this report. This potentially indicates an overall increase in the number of students completing a HDR award, but this cannot be confirmed until final data has been reported to DEEWR (2009 data due to be reported in April 2010).

- Implement the Library Research Support Strategy.
- Identify (through University Foundation) prospects and cultivate relationships with the potential to support research at the University, with the intention of securing at least one gift of \$100,000 by December 2010.
- Further develop the research policy framework (finalise the Honours, Masters, PhD, External Grants and Intellectual Property Policies, which were drafted in 2009).

**Notes for:** Number of HDR completions by faculty from 2005 to 2009

**Notes for:** Total research income (\$ Million) by faculty and year

The 2009 data is unaudited as it is reported to DIISR in June the following year.

1. Office of Research have estimated likely completions for 2009, based on theses examined. These figures are reflected in the chart above. Official HDR completion data is reported to the Department of Education, Employment and Workplace Relations (DEEWR) in the Past Course Completions Files at 30 April each year.